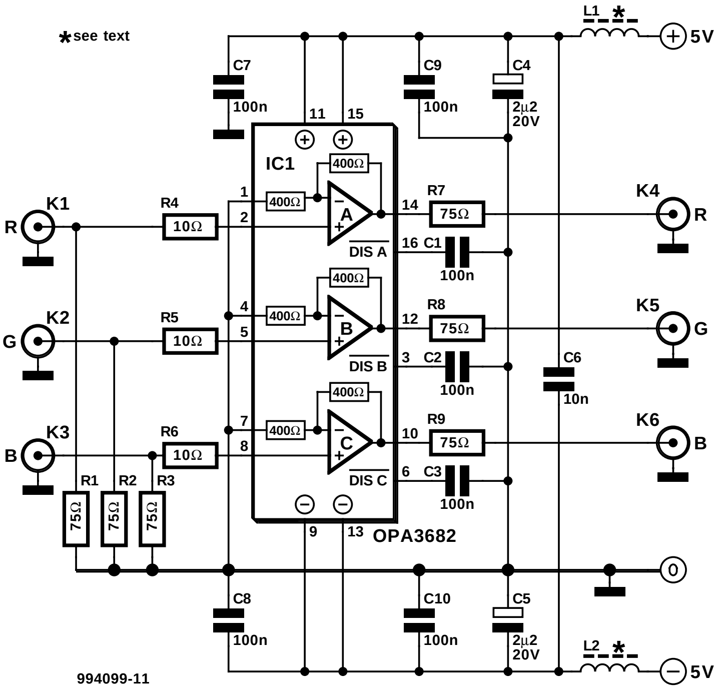
fixed-gain line driver OPA3682

024



A Burr-Brown application

The OPA3682 provides an easy-to-use, broadband fixed gain, triple buffer amplifier. Depending on the external connections, the internal resistor network may be used to provide either a fixed gain of +2 video buffer or a gain of ±1 voltage buffer. Operating on a low 6 mA/channel supply current, the device offers a slew rate and output power normally associated with a much higher supply current.

The output stage architecture provides high output current with minimal headroom and crossover distortion to give excellent single-supply operation. Operating from a single +5 V supply, the OPA3682 can deliver a 1–4 V output swing with over 100 mA drive current and a bandwidth of 200 MHz. This combination makes the OPA3682 ideal for use as an RGB line driver or a single-supply, triple ADC input driver.

Each amplifier has a dedicated disable pin (3, 6, 16). When the disable function is not used, a decoupling capacitor, C_1–C_3, links the relevant pin to earth. Correct decoupling, as well as faithful adherence to the circuit layout, is important. A good guide is the DEM-OPA368xE evaluation fixture sheet available from the Burr-Brown Corporation or its dealers or at http://www.burr-brown.com/ This sheet also outlines the reasons why all components should be in surface mount technology (SMT).

Resistors R_1–R_3 determine the input impedance, and resistors R_7–R_9, the output impedance.

The quiescent current with all amplifiers enabled is about 18 mA and with the amplifiers disabled, about 900 µA.

[994099]